



ILLINOIS

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN



Fire Service Institute ANNUAL REPORT FY-2007



ON OUR WATCH

July 1, 2006 – June 30, 2007

OUR MISSION

To help firefighters do their work through training, education, information and research.



From the Director

I am pleased to present the 2007 Annual Report of the Illinois Fire Service Institute at the University of Illinois.

IFSI staff enjoyed a productive and successful year, which culminated in the busiest month in the history of the Institute. In June, we hosted four major events in Champaign: the 83rd annual Fire College, the National Fire and Emergency Services Exploring Conference, the statewide Technical Rescue Team Validation sessions and the first-ever HazMat Validation exercises. In those four weeks, more than 2000 people passed through the IFSI campus facility, which usually handles around 9000 students a year.

June also marked the month when we received some of the biggest news of the year. The Department of Homeland Security notified us that our Firefighter Life Safety Research Team would receive a \$900,000 grant to continue our heat-stress research.

Shortly thereafter, the University of Illinois Board of Trustees issued final approval for the construction of a new, 24,000-square-foot Learning Resource and Research Center on the grounds of our current 27-acre training facility. The Center will provide permanent space for the Firefighter Life Safety Research Team and will house an expanded IFSI Library and emergency operations center training rooms. It will also be home to a memorial hall and museum to honor our state's firefighters.

Along with these notable events, we reached over 55,000 students through our regular training operations at the Champaign campus and 349 training and fire department locations throughout the state. Total hours of instruction increased by 13 percent above last year—another new record. Enrollment in auto-extrication tripled this year, and we expanded our Agricultural program to include ethanol fire fighting.

We are proud of our accomplishments of the past year, but our focus remains on helping firefighters on the front lines to do their job. For the coming year, we will continue earning your support by delivering the nation's most innovative and comprehensive fire-related training, education and research programs.

A handwritten signature in black ink, appearing to read "Richard Jaehne".

RICHARD JAEHNE
DIRECTOR

From the Chancellor

UNIVERSITY OF ILLINOIS, URBANA-CHAMPAIGN

I want to extend my personal congratulations to the Illinois Fire Service Institute on its 83rd year of successfully training those who are responsible for the safety of the citizens of Illinois.

The University of Illinois has a legacy of providing world-class teaching and research for Illinois citizens and communities. A key part of this legacy is helping responders and communities prepare for emergencies. There is a growing awareness to address the issues associated with emergency preparedness and response. IFSI contributes significantly to this effort as an integral interdisciplinary partner with traditional academic and research programs.

We look forward to the new opportunities that will come from the construction of IFSI's new Learning Resource and Research Center. This new facility will significantly enhance the firefighter life safety research conducted across campus. It will provide a state-of-the-art training center for emergency operations decision makers, create an international conference center for first responders worldwide, provide modern facilities and expanded capacity for our special library, and create a firefighter memorial hall to honor those firefighters that IFSI serves.

I want to thank the Institute's staff and its partners for making the Illinois Fire Service Institute one of the premier fire institutes in the nation.

RICHARD HERMAN, CHANCELLOR



New in FY2007

New Courses

IFSI now offers 17 different nationally approved **Department of Homeland Security (DHS) classes** in hazardous materials, technical rescue and unified command. These courses have been “institutionalized” as meeting the instructional standards of DHS Grants & Training.

Origin and Cause Awareness is the newest offering in our growing online curriculum. This web-based course provides an overview of the causes of fires and how fire scenes are investigated and documented.

Classes focusing on responding to incidents involving anhydrous ammonia were added to our agricultural training offerings.

New Training Tools

The popular **Firefighter II Online** course now offers its 23 lectures in MP3 format for download to IPOD and MP3 players. The audio lectures range from 35 to 45 minutes in length. This new format allows students to participate in the course when they are away from their computers.

“Awareness Level Firefighter Training for Modern Wood Products” is a new instructional CD-ROM produced by IFSI in cooperation with the American Forest and Paper Association, and funded by a U.S. Fire Administration grant. The CD was introduced to the nation’s fire service at the Fire Department Instructors Conference (FDIC) and is available on our website at www.fsi.uiuc.edu.

“IFSI is a recognized leader in homeland security training. We’re proud of our role in making Illinois a national model for security preparedness.”

MAC MCCAUSTLAND
IFSI ASSOCIATE DIRECTOR

Corporate Support



State Farm Insurance donated a new **Chevrolet Avalanche** that is now towing IFSI's fire-investigation trailer to locations throughout the state.

The GSI Group, the world's largest manufacturer of galvanized steel storage bins, has been providing new metal

sections for the "**Baby Bin**" it donated to IFSI last year. This scaled-down grain bin has a specially designed roof and replaceable side panels that allow the creation of realistic rescue scenarios.

IFSI students always have access to the latest tool technology, thanks to assistance from many manufacturers. Specialized auto extrication tools are provided for instructor and student use by Ajax Tools, Amkus, ARS, Genesis, Holmatro, Hurst, Res-Q-Jack, and Rescue 42.

"Time and travel expenses are two of the biggest obstacles firefighters face in getting the training they need. With our convenient online courses, we've made those problems disappear for thousands of the state's firefighters."

BRIAN BRAUER
IFSI FIRE FIGHTING
PROGRAM DIRECTOR

New Frontier: Ethanol

Late in fiscal year 2007, IFSI began a process to bring ethanol fire response training to fire departments and industry. The Institute is working with the Renewable Fuels Association, Ethanol Emergency Response Coalition and foam manufacturers to develop programs that prepare first responders for this growing industry.



IFSI Training Courses

A Growing Curriculum

Areas of Study

- Fire Fighting – basic and advanced
- HazMat
- Rescue (collapse, rope, trench, vehicle/machinery, confined space)
- Investigation and prevention
- Homeland Security (NIMS)
- Emergency Medical Services (EMS)
- Agricultural incidents
- Industry
- Officer training
- National Fire Academy

New this Year

- Reinvigoration of a Fire Officer program in southern Illinois
- Expanded delivery of National Incident Management System (NIMS) courses
- Expansion of agricultural training programs
- Work with the ethanol industry to address special fire fighting strategies for fires and spills in ethanol plants and on the roads and rails

The IFSI web site (www.fsi.uiuc.edu) offers complete course descriptions and online registration. Visitors can browse the catalog and calendar, or use the online database to search for courses by date, location and content.



Online Courses

IFSI continues to be an innovator in the design and delivery of online courses. Our offerings are growing every year, and our near-term goal is to develop an online version of every Awareness-level course. Our online curriculum now includes:

- Certified Firefighter II (since 2000)
- Hazardous Materials Awareness (since 2001)
- Emergency Response to Terrorism: Basic Concepts (since 2004)
- Technical Rescue Awareness (since 2006)
- Fire Service Vehicle Operator (since 2006)
- **New in 2007:** Origin and Cause Awareness

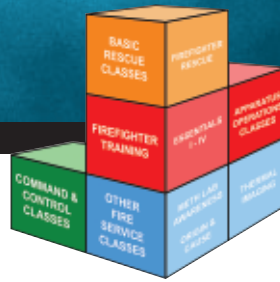
The **Virtual Campus** on the IFSI web site (www.fsi.uiuc.edu) is a central portal for accessing online course information, dynamic media, "Quick Hit Training," discussion boards and other interactive services.

Accreditation and Certification

IFSI now offers 19 courses that qualify for college credit as recommended by the American Council on Education (ACE).

IFSI has built a strong relationship with the **National Fire Academy (NFA)** and works to give Illinois firefighters greater access to NFA classes. Some IFSI faculty members also teach for NFA, and many IFSI courses are NFA-"endorsed," which qualifies students for dual certificates.

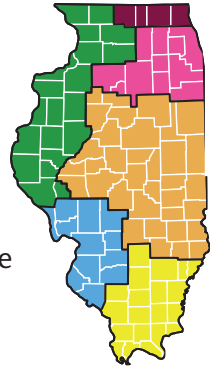
Cornerstone Program



This outreach program offers practical, hands-on training in fundamental skills, delivered at no cost to trainees. Cornerstone courses are presented throughout the state in fire departments' local facilities and in regional training centers and fire schools.

IFSI's six regional representatives connect with departments in their areas to ensure that all Illinois firefighters have access to local training. IFSI conducted Cornerstone classes for students in 96 of Illinois' 102 counties.

These programs are made possible by the generosity of our partners: Office of the State Fire Marshal, Illinois Propane Education and Research Council (IPERC), Illinois Petroleum Resources Board and the Illinois Department of Natural Resources (IDNR).



Cornerstone Delivery

374 classes
176 locations in 96 Illinois counties
795 departments
9618 students

IPERC Classes

77 classes
362 departments
3987 students

IDNR Wildlands Classes

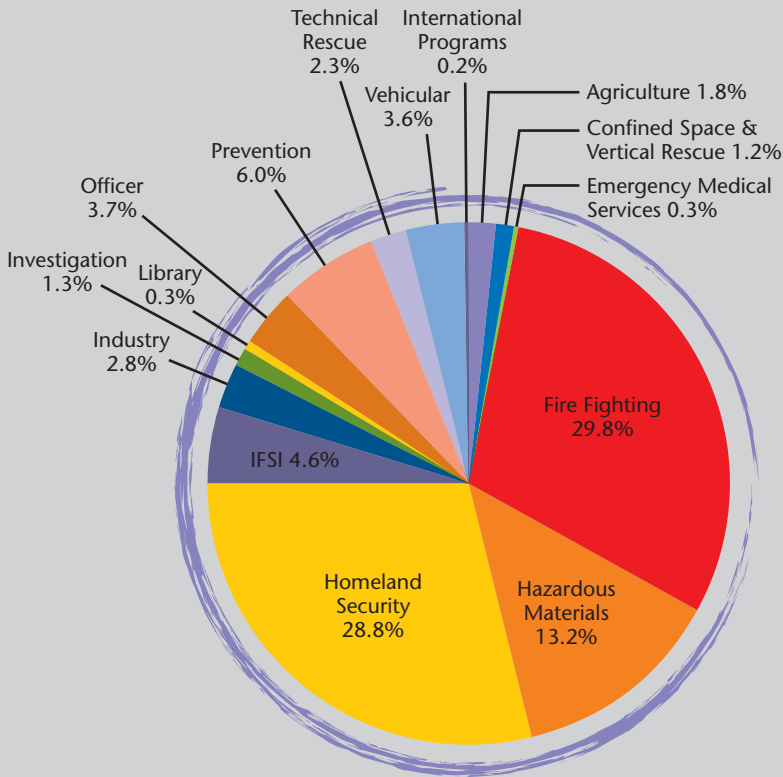
9 classes
47 departments
195 students



IFSI Training Courses

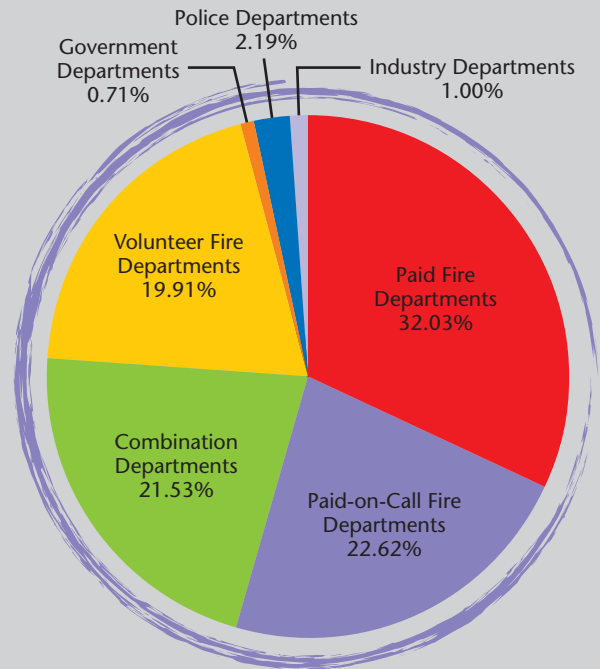
Record-Setting Enrollments

Enrollment by Program Area



Enrollment by Career-Type

Training delivered across a number of careers



In FY2007, IFSI delivered **652,942 student hours** of instruction – an increase of 13 percent from 2006. That included:

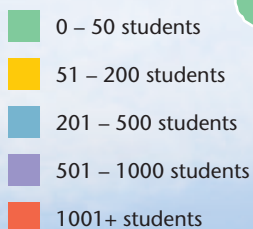
- **1294 different courses**
- **55,049 student registrations** from **1006 fire departments** and **163 other organizations**
- **Classes were offered in 349 locations** in 100 Illinois counties.



"In 2007 we offered a bigger variety of courses than any other year, with a big

DAVID CLARK
DEPUTY DIRECTOR

0 – 50 students
 51 – 200 students
 201 – 500 students
 501 – 1000 students
 1001+ students



Special Events



IFSI's flagship event – the **83rd Annual Fire College** – brought more than 1000 firefighters to Champaign IL in June for America's oldest continuous fire school. The four-day event featured more than 40 different classes and hands-on experience with the newest fire fighting equipment, technologies and techniques. This year's theme was "Training So Everyone Goes Home."

The **12th Annual Winter Fire School** offered a full weekend of training on February 3-4 in Urbana IL. More than 260 firefighters enrolled in short courses and NFA classes.

The **Fire Service Women of Illinois** hosted a two-day event with hands-on training sessions at IFSI's Champaign IL campus in October.

The **3rd Annual Fire Factor** event was held in partnership with University of Illinois Campus Housing and the cities of Champaign and Urbana. More than 50 college students attended the program, which featured hands-on training in fire safety and prevention.

"Fire College gave me the opportunity to learn from not only seasoned instructors, but also from the experiences of other firefighters."

STUDENT
FIRE COLLEGE





The **National Fire and Emergency Services Exploring Conference** in June featured three days of competition, seminars and demonstrations for teens and young adults. The 408 participants, ages 14 to 20, represented 63 fire departments from 21 states, including

Alaska. Participants indicated this was the best conference to date.

IFSI continued its work as co-chair of the **Illinois Terrorism Task Force (ITTF) Training Committee**. In that role, we provide leadership in the development and delivery of interdisciplinary training for the state and nation. One of the special training sessions was the **Fourth Statewide Deployable Technical Rescue Team (TRT) Validation**, hosted by IFSI in June 2007. The exercise, which tested participants' response skills for a 33-hour period without external support, certified ten additional teams for statewide disaster response. Also featured was the **first HazMat Validation exercise**, which certified six teams with more than 100 participants. These Validations involve the specialty teams and various support organizations, such as IMERT, IMAT and the Red Cross.



A Commitment to Research



"In the lab and in the field, our research focus is on action-oriented studies that have practical applications."

GAVIN HORN
PROGRAM MANAGER

IFSI invests heavily in research to protect firefighters and advance the techniques and technologies available to them. Our efforts focus on action-oriented studies in:

- **Health and wellness** – studies on physical fitness, injury prevention and treatment, psychology, environmental issues and other factors that affect the safety of first responders.
- **Incident management technology** – projects to develop and evaluate new technologies for crisis situations.
- **Tools and equipment** — testing and development of tools, equipment and technologies for use in fire and rescue scenarios.

The Institute carries out this research through its own Firefighter Life Safety Research Center and membership in the Homeland Security Training and Research Center, and through strategic partnerships with other organizations, institutions and businesses. In addition to the University of Illinois, our research partners include fire departments, corporations, associations, private industry and other colleges and universities.

New in 2007

- A significant step forward in our research efforts occurred in June when IFSI received a sizeable federal grant for the University of Illinois Firefighter Life Safety Research Center. The Center will carry out research on heat stress and its role in the most common line-of-duty fatalities (heart attacks) and injuries (trips, slips and falls).
- A national leader in heat-stress research, IFSI made a major contribution to "Health and Safety Guidelines for Firefighter Training," a 2006 study published by the University of Maryland Fire & Rescue Institute.
- IFSI participated in the National Fire Service (NFS) Research Summit in June and contributed to the NFS Research Agenda. The agenda identified the most critical areas for future research in improving firefighter life safety.

Cross-campus initiatives: IFSI enjoys tremendous benefits from our affiliation with one of the premier research universities in the nation. Institute staff members collaborate with University of Illinois professors and researchers from dozens of campus departments to carry out interdisciplinary studies.

One of our continuing collaborations is with the University's Department of Architecture. IFSI instructors are teaching architecture students how fire behaves and how fire-department personnel operate inside a burning building.

Information Services



The **IFSI Library** offers extensive resources to Institute staff, Illinois fire departments and firefighters, and other emergency responders, as well as University of Illinois students and the public. It's the only library in the state dedicated to fire-service literature and research, and it's one of the top three fire service libraries in the U.S.

Through our **Library Outreach Program**, every firefighter in Illinois has access to free literature and information services. The entire library catalog is searchable on the Institute web site (www.fsi.uiuc.edu). A popular site feature is the Virtual Bookshelf, a constantly updated database of the most recent publications and research on more than fifty different topics.

New in 2007

- A new digital image collection – The Illinois Firefighter Line of Duty Deaths Database – was initiated and implemented by library staff. The collection documents the ultimate sacrifice of more than 780 Illinois firefighters over the past 150 years. A special display is traveling the state. The database can be accessed on the Web: <http://www.fsi.uiuc.edu/content/library/IFLODD>
- The Library staff continued working on cooperative programs with Chinese-American librarians.



Partnerships

IFSI's many strategic partnerships allow us to share resources and expertise with leading educators, researchers, corporations, professional associations and other organizations. Current partners and their contributions include:



Illinois Firefighter's Association – funding and delivery of CD training software for use by local fire departments.

Illinois Association of Fire Protection Districts – participation in trustee programs to promote training opportunities and availability.



Illinois Propane Education and Research Council (IPERC) – delivery of no-cost training in fighting propane fires.

Illinois Petroleum Resources Board — funding for training to extinguish oil well fires in southern Illinois.



Illinois Department of Natural Resources – wildland (Red Card) fire training.



University of Illinois at Urbana-Champaign — cross-campus initiatives to fund interdisciplinary research and academic programs.

State Farm Insurance Company — support for the National Fire & Emergency Services Exploring Conference and our Investigation training.





Office of the State Fire Marshal – funding for the Cornerstone program and certification of firefighters.



State of Illinois Fire Caucus – cooperative work on strategic public policy issues.

Underwriters Laboratory – joint sponsorship of fire-related research and product field trials.



Chicago Fire Department (CFD) – projects in four key areas: training, education, research and translating “science to the street.” CFD is also a partner with IFSI in some of the Underwriters Laboratory projects.

“We’ve derived great value from our professional partnerships. We know we must reach out to the very best to build the very best for Illinois fire fighting.”

RICHARD JAEHNE
DIRECTOR

IFSI has a strong relationship with the Chicago Fire Department, which enrolled 5721 of its firefighters in 202 IFSI classes last year. Some of the services IFSI is providing to CFD:

- Burn buildings for live fire training of firefighter candidates.
- Officer certification courses for all newly promoted CFD officers.
- Live-fire training for officers.
- Unified Command courses for ranking CFD officers and personnel from other Chicago agencies.
- Annual basic firefighter in-service training to all Chicago fire companies.
- Training of CFD’s Technical Rescue Teams.
- Work with Local #2 of the International Association of Firefighters (IAF) to provide HazMat Technician training to all CFD firefighters.
- Development of a China Olympics public-safety program.



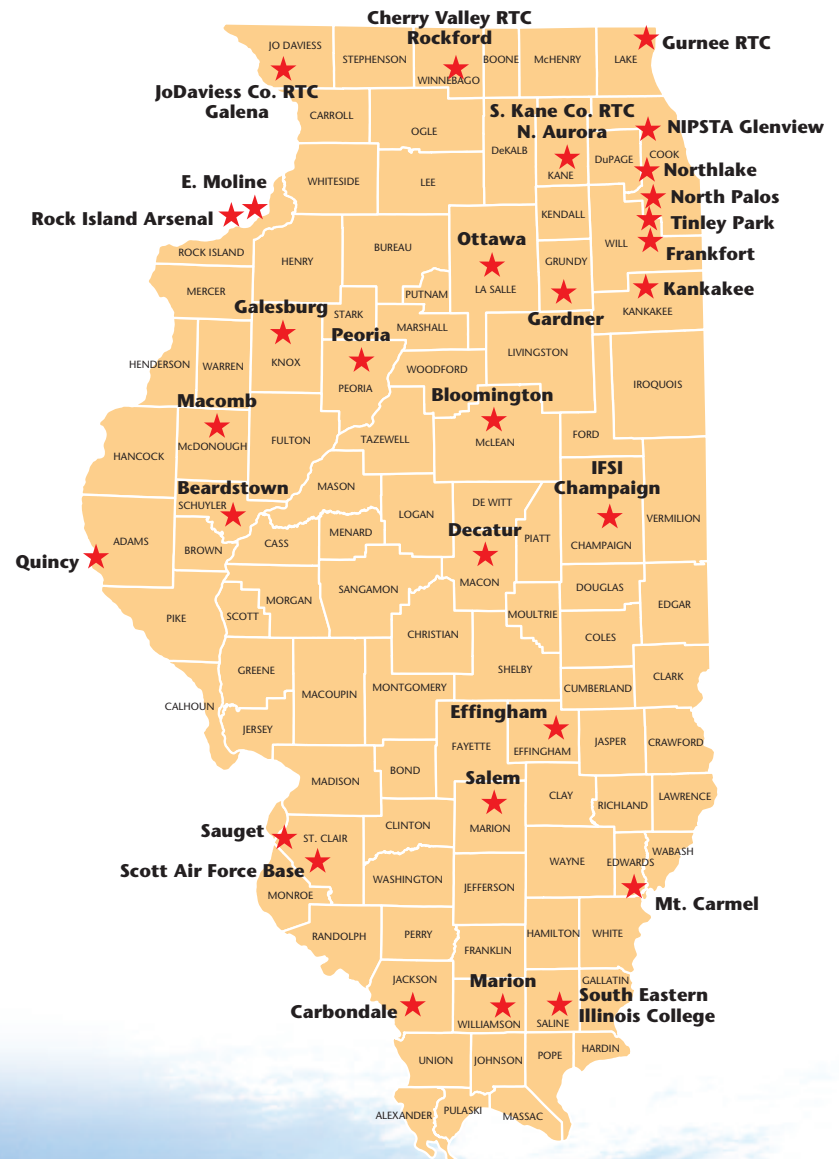
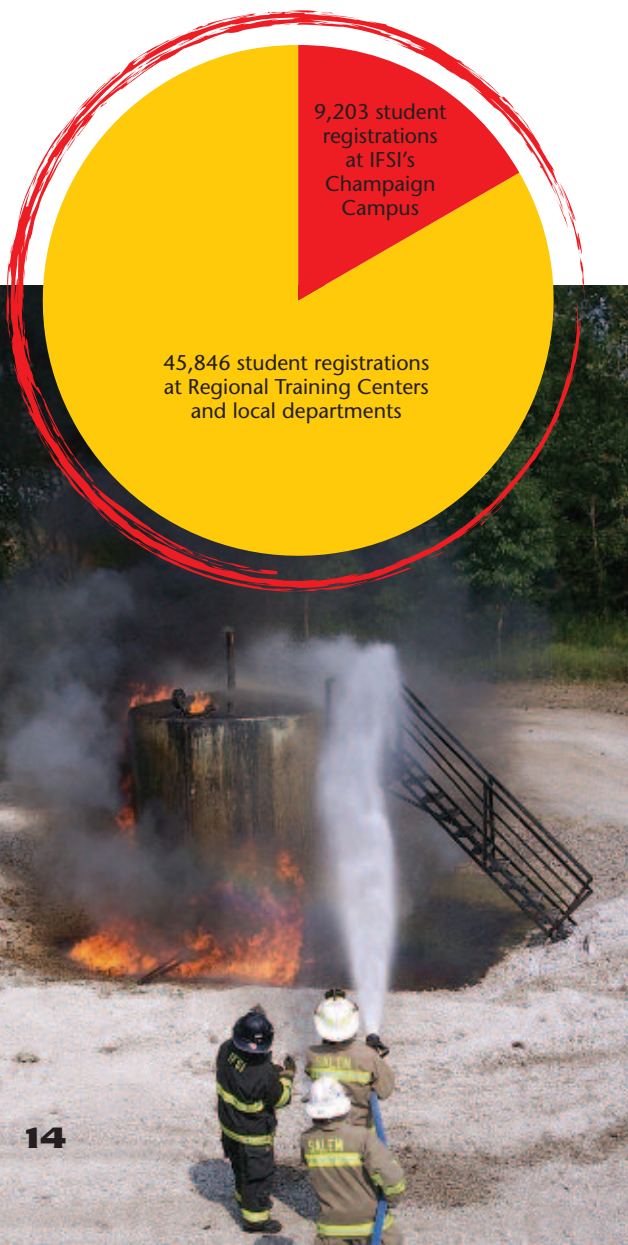
Regional Training Centers



Our network of Regional Training Centers is designed to connect with all the state's firefighters and enable them to receive quality training close to their home departments. Facilities at the Centers range from burn structures to rescue and HazMat training props that are funded through the Illinois Terrorism Task Force. Many of the props have multiple uses.

Student Registrations

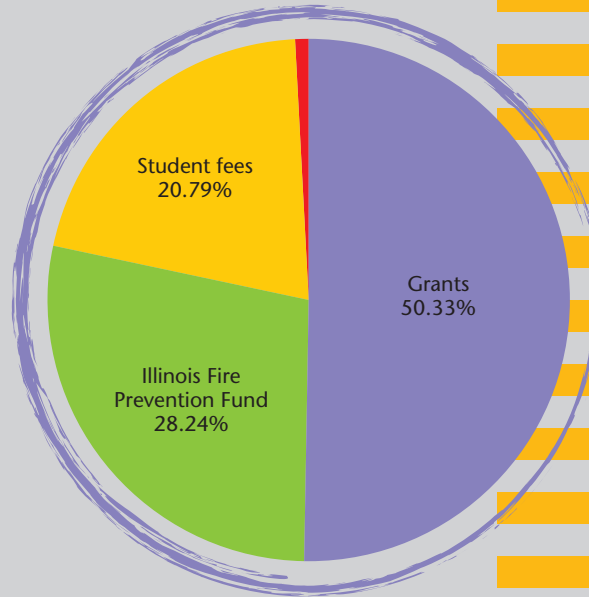
More than 80% of IFSI's training is delivered at Regional Training Centers and local departments



Funding Sources

Funding

Gifts/Sponsorships
0.65%



Hands-on training is the signature of IFSI, and it's a commitment that requires extensive resources. As our services and course enrollments increase, the need for additional funding becomes more critical. Our ability to respond to new fire fighting challenges depends on the continuing support of Illinois fire departments, state agencies and private donors.



Looking Ahead

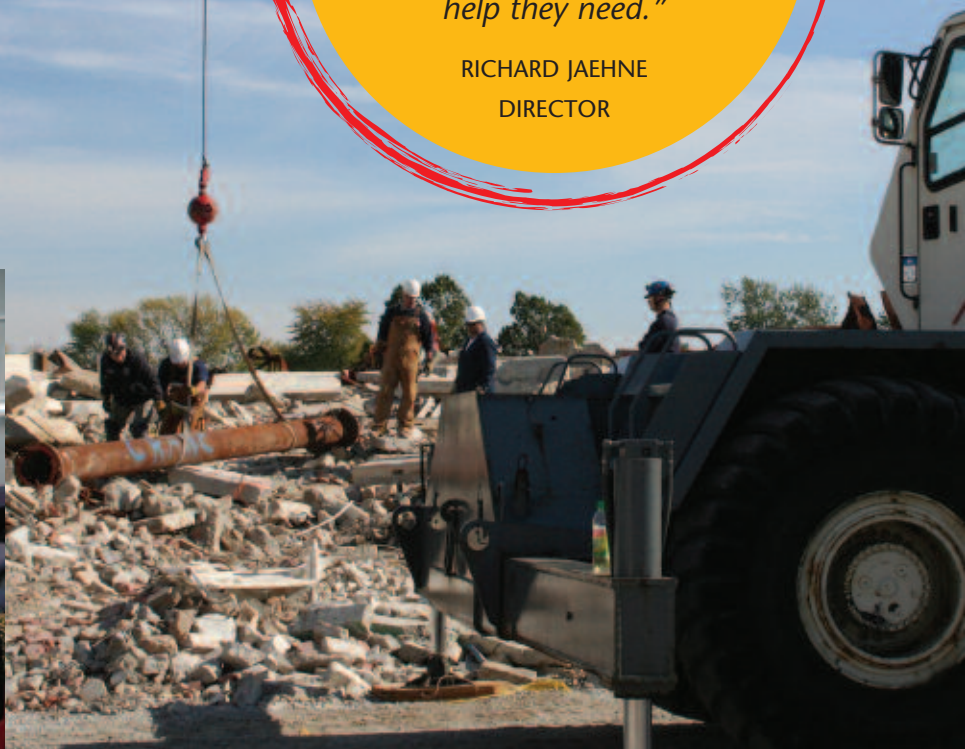


The year ahead offers many opportunities and challenges. IFSI staff is looking forward to:

- Expanding the IFSI Library and planning the new Learning Resource and Research Center.
- Building on the success of the National Fire/Emergency Services Exploring Conference. IFSI is expecting enrollments from more states for our 2008 Explorer/Cadet Hands-On Training event.
- Working with the ethanol industry to respond to its unique requirements for safety training.
- Developing a new format with more action video for the “Down and Dirty” Fire Ground Support & Aerial Operations DVD series.
- Working through our Industrial Training Forum to engage private industry in shaping future curricula to meet their training needs.

“We can’t predict the future, but we know emergencies will happen. What each of us does today to prepare for them will determine how quickly our citizens and communities can get the help they need.”

RICHARD JAEHNE
DIRECTOR



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